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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,057

10/25/2006

Thierry Hyst

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9274

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MCCRACKEN & FRANK LLP  
311 S. WACKER DRIVE  
SUITE 2500  
CHICAGO, IL 60606

EXAMINER

WALBERG, TERESA J

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

06/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,057	<b>Applicant(s)</b> HYEST, THIERRY	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 10-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/28/06</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 10, 12, 14, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Otake (4,304,295).

Otake discloses a heat exchanger (Fig. 1) including an enclosure provided with a plurality of tubes (1) in which a heat transfer fluid circulates, the fluid conveying cleaning balls (col. 1, lines 9-18), feed and outlet collectors joined to the enclosure via a first and second side wall of the enclosure opposite each other (Fig. 1), the outlet collector (7) being in the form of a single piece having a first portion forming a flow converger and a second portion forming a nozzle joined to the flow converger (Figs. 2 and 3), the outlet collector (7) having a downstream mouth by which it is joined to a heat transfer fluid discharge pipe (5), a separation device (7) placed in the second portion of the outlet collector in order to separate the cleaning balls from the fluid, the device including at least two pairs of grids (15 in Fig. 4) mounted to rotate on a spindle (21), the spindles (21) being pairwise parallel to one another, the separation device (7) forming a filtering structure that converges on a recovery device placed in the second portion to recover the cleaning balls (11, 9), the grids having a W shaped profile converging on the recovery device (see embodiment of Fig. 6), the grid having a

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row of spaced apart parallel blades (16 in Fig. 5), a plurality of coaxial spacers together form the spindle (21) for supporting each grid (Fig. 4).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11, 13, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295).

Otake discloses a heat exchanger having the claimed structure with the exception of the first portion having a rectangular cross section and the central blades of the W being longer than the outer blades.

However, it is conventional in the art to give heat exchanger manifolds a rectangular cross section. It would have been obvious to one of ordinary skill in the art to give the upper portion of the manifold 5 of Otake a rectangular cross section, or any other desired cross section, based on the intended use of the device and the space available for the device installation. It would have been obvious to one of ordinary skill in the art to give the central blades of the ball filtering grid greater length, the motivation being to reduce the blocking of the central portion of the heat exchanger outlet flow.

5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otake (4,304,295) in view of Koller (4,385,660).

Otake discloses a heat exchanger having the claimed structure with the exception of a system to cause the grids to rotate when the pressure difference is greater than a predetermined value. However, Koller discloses a system for causing the grids to rotate (col. 7, lines 47-50) and teaches actuating this rotation in response to "an increase of ... resistance to flow" (col. 5, lines 40-52). It would have been obvious in view of Koller to rotate the grids of Otake for cleaning in response to pressure difference, the motivation being to prevent clogging of the outlet flow path of the heat exchanger.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schmidt, Bizard, Borchert, Ben-Dosa, and Peery are cited to show cleaning ball systems.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/  
Primary Examiner, Art Unit 3744

/TW/